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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/521,231  
Filing Date: September 08, 2005  
Appellant(s): PLASCHKA ET AL.

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For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 12/13/10 appealing from the Office action mailed 05/12/10.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

No amendment after final has been filed.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

US 5,990,444	Costin	11-1999
WO 98/03348	Snell	01-1998
US 4,507,346	Maurer	03-1985

US 3,880,706	Williams	04-1975
US 6,082,778	Solmsdorf	07-2000

### **(9) Grounds of Rejection**

Claims 1-4, 6-8, 10-12, 14, 24-27, 30-32, and 34-36, are rejected under 35 U.S.C. 102(b) as being anticipated by Costin (US 5,990,444).

In respect to claims 1 and 14, Costin discloses a paper 80, for example a cotton/polyester blend (Col. 20, 60) having at least one tangible marking 81 in the form of a relief structure wherein the relief structure is formed from cotton fibers of the paper via a laser (Col. 21, 13-31). The application of this extends to counterfeiting prevention, effectively making the cotton/polyester paper a "document of value/security paper" (Col. 3, 37-40).

In respect to claims 2-4, the tangible markings 81 become a slightly darker color, effectively a "blackening", after application of the laser (Col. 21, 22-25)

In respect to claim 6, dyes may be used to change to different colors upon laser exposure (Col. 25, 48-56).

In respect to claims 7-8 and 34, the paper may be a cotton/polyester composite as described above; cotton being an example of an annular plant (Col. 20, 60).

In respect to claims 10-12, the tangible marking (graphics) may be made with discontinuous lines to create complex patterns, for example, a shooting star produced on cotton (Col. 27, 12-18).

In respect to claims 24-27, and 30-31, the methods claimed are disclosed for the reasons stated above including using a Nd:YAG laser (Col. 28, 38-41) which may be employed in a "high-speed fashion" (see Table 6)

In respect to claims 32 and 35-36, the intended uses of the security paper with counterfeiting prevention is not patentable subject matter.

Claims 5, 9, and 33, are rejected under 35 U.S.C. 103(a) as being unpatentable over Costin (US 5,990,444). Costin substantially discloses the claimed subject matter for the reasons stated above but does not disclose that the relief height is between 30 $\mu$ m and 100  $\mu$ m (or more specifically 30 $\mu$ m and 80  $\mu$ m). Costin teaches that a wide range of energy density per unit time (EDPUT) for cotton blends (see Table 4) and in fact the premise of the invention is controlling the EDPUT to obtain desired results in materials (e.g. cotton) without destroying the material (Abstract); Cosin also teaches that desired EDPUT will often vary with perimeters such as the size and type of the tangible marking (graphic) (Col. 11, 23-26). The claim would have been obvious because a particular known technique was recognized as part of the ordinary capabilities of one skilled in the art. In this case the adjustment of the EDPUT is disclosed and reaching a particular height such as 30-100 $\mu$ m or 30-80 $\mu$ m is routine experimentation that Costin contemplates. Furthermore, there is no apparent critically in the present applicant's specification for this range.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Costin (US 5,990,444) in view of Schnell (WO/98/03348). Costin substantially discloses the claimed subject matter for the reasons stated above but does not disclose that the tangible markings are connected with different information on a document of value however Schnell disclose a similar document wherein an identification mark created by a change of thickness in the paper '30' (analogous to the tangible marking) is repeated at a different location (for example printed) '36812094(30)' (Fig. 1, Abstract) and it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the tangible marking taught in Costin with an identical printed marking in view of Schnell to clearly link the printed marking to the substrate (Schnell, Abstract, Fig. 1).

Claims 1, 15-16, 23, and 28, are rejected under 35 U.S.C. 103(a) as being unpatentable over Maurer (US 4,507,346) in view of Costin (US 5,990,444).

In respect to claims 1, 15-16, and 23, Maurer discloses a multilayer security element including a paper 10 (Fig. 2) and a tangible marking in the form of a relief structure 13 (Fig. 2) that is "burned or discolored in the area of the data in relief" (Col. 8, Lns 25-26) by "absorption of the laser" (Col. 8, Ln 20). Maurer does not disclose that the relief structure is formed from cotton fibers in the paper however Costin discloses applying laser energy directly to a cotton/polyester blend to form a tangible marking as described above and it would have been obvious to one of ordinary skill in the art to modify the laser taught in Maurer with different energy density per unit time (EDPUT)

values in view of Costin to overcome technical barriers (complete carbonization, melting, and/or burning of material) which have prevented the use of lasers on such materials (e.g. cotton/polyester blend) in the past (Costin, Col. 1, 65 - Col. 2, 34). All of the claimed elements were known in prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

In respect to claim 28, Maurer in view of Costin disclose that the cover coating 11 is applied before laser inscription; the tangible marking 13 is produced in the area of this coating (Col. 7, Lns 17-18, Fig. 2, Maurer).

Claims 17-22, and 29, are rejected under 35 U.S.C. 103(a) as being unpatentable over Maurer (US 4,507,346) in view of Costin (US 5,990,444) as applied to claims 1, and 15-16 above, and further in view of Solmsdorf (US 6,082,778).

In respect to claims 17-18, 20-21, and 29, Maurer in view of Costin substantially disclose the claimed subject matter for the reasons stated above (including a dye print, Costin) but do not disclose a plastic layer and metal layer with the metal layer removed at least in the area by a laser, or incorporation of a print into the coating layer. Solmsdorf discloses: a plastic layer 6, including print coating 4 (Fig 4), a metal layer 7 (Fig 4), and cavities of removed metal via laser 10 (Fig 4). The plastic layer consists of a "diffraction pattern" (Cim 6). There is a junction between metal foil 7 and card layer 9 (Fig 4); the tangible marking 5b extends beyond the foil/card (Fig 2). It would have been

obvious to one of ordinary skill in the art at the time of the invention was made to provide the document and laser treatment taught in Maurer in view of Costin applied with the copy protection element (cover foil and plastic) in view of Solmsdorf in order maximize security by utilizing both features in unison under the same laser. All of the claimed elements were known in prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

In respect to claim 19, Maurer as modified by Costin in further view of Solmsdorf substantially disclose the claimed subject matter for the reasons stated above but do not disclose that the area of the removed metal layer is larger than the area provided by the tangible marking. Again, Costin teaches that a wide range of energy density per unit time (EDPUT) for cotton blends (see Table 4) and in fact the premise of the invention is controlling the EDPUT to obtain desired results in materials (e.g. cotton) without destroying the material (Abstract); Costin also teaches that desired EDPUT will often vary with perimeters such as the size and type of the tangible marking (graphic) (Col. 11, 23-26). Solmsdorf also teaches that the lasering is reduced in the area of the metal layer so that the marking solely exists in the metal area (Col. 3, 50-52) –or in other words, the metal layer is ablated easier (owing perhaps to its thickness as Costin suggests). The claim would have been obvious because a particular known technique was recognized as part of the ordinary capabilities of one skilled in the art. In this case the adjustment of the EDPUT is disclosed and tangible marking or ablation area



depending on material thickness is disclosed (Col. 11, 23-26), and it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a comparatively easily ablated metal layer as to not obscure the underlying relief pattern.

In respect to claim 22, a tangible relief marking disposed underneath a printed coating layer as taught in Maurer as modified by Costin in further view of Solmsdorf will naturally result in an optically variable element i.e. stretching of the printed layer.

In respect to claim 29, Solmsdorf additionally teaches that the identity card 1 with "copy protection element 2 (Fig. 1) is applied to the cover layer of the identity card by the transfer method" (Col. 3, Ln 25-26).

Claims 1-4, 5-9, 10-12, 14, 24-27, 30-33, and 34-36, are further rejected under 35 U.S.C. 103(a) as being unpatentable over Costin (US 5,990,444) in view of Williams (US 3,880,706). Although Costin is believed to disclose all of the subject matter of the claims for the reasons stated above, in the event that a cotton substrate (disclosed by Costin) and a security paper, need to be reconciled, Williams teaches that a security paper may be formed by cotton fibers (Col. 5, 33-43), it would have been obvious to one of ordinary skill in the art, to use the method of creating a relief on a cotton substrate as taught by Costin on a security paper formed of cotton fibers in view of Williams. The claim would have been obvious because a particular known technique was recognized as part of the ordinary capabilities of one skilled in the art, namely, using a substantially similar substrate to impart the laser energy, to produce predictable results. Furthermore, a cotton fiber security paper used in lieu of a cotton substrate would have been an

obvious substitution since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Costin substantially discloses the claimed subject matter for the reasons stated above but does not disclose that the relief height is between 30 $\mu$ m and 100  $\mu$ m (or more specifically 30 $\mu$ m and 80  $\mu$ m). Costin teaches that a wide range of energy density per unit time (EDPUT) for cotton blends (see Table 4) and in fact the premise of the invention is controlling the EDPUT to obtain desired results in materials (e.g. cotton) without destroying the material (Abstract); Cosin also teaches that desired EDPUT will often vary with perimeters such as the size and type of the tangible marking (graphic) (Col. 11, 23-26). The claim would have been obvious because a particular known technique was recognized as part of the ordinary capabilities of one skilled in the art. In this case the adjustment of the EDPUT is disclosed and reaching a particular height such as 30-100 $\mu$ m or 30-80 $\mu$ m is routine experimentation that Costin contemplates. Furthermore, there is no apparent criticality in the present applicant's specification for this range.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Costin (US 5,990,444) and Williams (US 3,880,706) in view of Schnell (WO/98/03348) for the same reasons stated above.

Claims 1, 15-16, 23, and 28, are rejected under 35 U.S.C. 103(a) as being unpatentable over Maurer (US 4,507,346) in view of Costin (US 5,990,444) and Williams (US 3,880,706) for the same reasons stated above..

Claims 17-22, and 29, are rejected under 35 U.S.C. 103(a) as being unpatentable over Maurer (US 4,507,346) in view of Costin (US 5,990,444) and Williams (US 3,880,706) as applied to claims 1, and 15-16 above, and further in view of Solmsdorf (US 6082778) for the same reasons stated above.

**(10) Response to Argument**

**In respect to claims 1-4, 6-8, 10-12, 14, 24-27, 30-32, and 34-36, rejected under 35 U.S.C. 102(b) as being anticipated by Costin. And additionally claims 5, 9, and 33:**

It is still held by the examiner that there is not a structural difference between a cotton fabric and cotton paper, as claimed. Costin in view of Williams is also applied below.

**In respect to claim 13 rejected under 35 U.S.C. 103(a) as being unpatentable over Costin in view of Schnell:**

Applicant argues that Schell fails to teach or suggest a relief structure is formed from cotton fibers of a security paper however in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Costin provides teaching for relief structures formed in cotton fibers as discussed above.

**In respect to claims 1, 15-16, 23, and 28, rejected under 35 U.S.C. 103(a) as being unpatentable over Maurer in view of Costin:**

Applicant argues that Maurer fails to teach or suggest a relief structure is formed from cotton fibers of a security paper (as admitted by the examiner) however in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Costin provides teaching for relief structures formed in cotton fibers as discussed above.

**In respect to claims 17-22, and 29, rejected under 35 U.S.C. 103(a) as being unpatentable over Maurer in view of Costin as applied to claims 1, and 15-16 above, and further in view of Solmsdorf:**

Applicant argues that Maurer and Solmsdorf fail to teach or suggest a relief structure is formed from cotton fibers of a security paper however in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Costin provides teaching for relief structures formed in cotton fibers as discussed above.

**In respect to claims 1-4, 5-9, 10-12, 14, 24-27, 30-33, and 34-36, further rejected under 35 U.S.C. 103(a) as being unpatentable over Costin in view of Williams:**

Although it is still held by the examiner that there is not a structural difference between a cotton fabric and cotton paper, as claimed, Williams was added as a teaching that cotton fiber security papers are known, and providing the same methods to a cotton fiber security paper would have predictable results.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Kyle Grabowski/

Examiner, Art Unit 3725

Conferees:

/Dana Ross/

Supervisory Patent Examiner, Art Unit 3725

/Joseph J. Hail, III/

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